

## Remarks

In the previous office action, the Examiner rejected claims 43-58 under 35 USC 102(b) in view of Kasai et al and claims 57 and 60 under 35 USC 103 in view of Kasai and Rheude. The Examiner also rejected claims 59 and 60 under 35 USC 112. This amendment should moot the Examiner's 35 USC 112 rejection and address the art-based rejections.

The present invention relates to a stopper material of two components, wherein a balance of the two above-mentioned characteristics has been provided.

The stopper, as defined in the present claims, is an injection-mouldable material made of a combination of a butyl-based rubber (70-90 % by weight) and a thermoplastic polymer (30-10 % by weight), wherein the thermoplastic polymer is selected from polyethylene and polypropylene.

The stopper of Kasai comprises up to four different components:

- Butyl-based rubber (30-90 % by weight, preferably 50-70 %, by weight, and in all of the examples the butyl-based rubber is included with 60 % by weight)
- Thermoplastic elastomer (10-70 % by weight)
- Optionally an olefin-based polymer (0-30 % by weight, preferably 10-20 % by weight)
- Optionally a filler (0-80 % by weight)

The two first mentioned components, which include a thermoplastic elastomer, are compulsory, while the two latter are optional.

Unlike the present invention, in Kasai the thermoplastic elastomer include: polyester elastomers, polyolefin elastomers, such as ethylene-propylene copolymers or ethylene-propylene-non-conjugated copolymers, partially cross-linked ethylene-propylene rubbers, propylene graft ethylene-propylene rubbers and isobutylene graft polyethylenes, styrene-based elastomers, polyamide-type elastomers,



and 1,2-polybutadiene.

The thermoplastic elastomer is not a polyethylene or a polypropylene homopolymer. In fact, Kasai states explicitly that an olefin based polymer may be present in addition to the mandatory thermoplastic elastomer. Indeed, in addition to the butyl-based rubber and the thermoplastic elastomer, the stopper of Kasai may further include an olefin-based polymer, including propylenes, and ethylene. The olefin-based polymer is added in an amount of up to 30 %, by weight, preferably 10-20 % by weight.

The Examiner states, that Kasai et al teaches that the bromobutyl rubber is blended with up to 30 % polypropylene or polyethylene. However, in this statement the Examiner leaves out, that the blend, in addition hereto comprises a thermoplastic elastomer. Accordingly, Kasai et al. does not teach a stopper of a blend of butyl-based rubber and propylene or of butyl-based rubber and ethylene without a thermoplastic elastomer. Therefore, the present invention as defined in the amended claims is neither anticipated nor obvious in view of Kasai et al.

As for claims 57 and 60, they are not obvious because the combined teachings of Kasai and Rheude because these references when combined do not disclose the use of polypropylene or polyethylene alone with butyl rubber will result in an acceptable material for a stopper. Instead, they disclose that it is essential to have a thermoplastic elastomer, such one of the listed copolymers, in order to produce the stopper.




Attorney Docket No.: 5762.200-US  
Express Mail Label No.: EV 409530562 US

### **Conclusion**

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Commissioner is hereby authorized to charge any fees in connection with this application and to credit any overpayments to Deposit Account No. 14-1447. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

Respectfully submitted,

Date: March 15, 2004

  
\_\_\_\_\_  
Marc A. Began, Reg. No. 48,829  
Novo Nordisk Pharmaceuticals, Inc.  
100 College Road West  
Princeton, NJ 08540  
(609) 987-5800

**Use the following customer number for all correspondence regarding this application**  
23650  
PATENT TRADEMARK OFFICE